REMARKS

The Applicants do not believe that entry of the foregoing amendment will result in the introduction of new matter into the present application for invention. Therefore, the Applicants, respectfully, request that this amendment be entered and that the claims to the present application, kindly, be reconsidered.

Claims 1-4 and 10-29 are pending in the present application for invention. The Final Office Action dated August 18, 2005 rejected Claims 1-4 and 10-29.

The Final Office Action rejected Claims 10-13 under the provisions of 35 U.S.C. §101. The Examiner states that Claims 10 and 12 are drawn to signals *per se*, and not embodied on a computer-readable medium or on an electromagnetic wave. It should be noted that the Examiner is apparently taken a stance that signal claims are *per se* non-statutory. The Applicants respectfully request clarification on this issue. The Applicants assert that a claim does not become non-statutory simply because it is a signal claim.

The Applicants, respectfully, point out that the MPEP at §2106 under Patentable Subject Matter - Computer-Related Inventions, states that "descriptive material can be characterized as either 'functional descriptive material' or 'nonfunctional descriptive material.' In this context, 'functional descriptive material' consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of 'data structure' is 'a physical or logical relationship among data elements, designed to support specific data manipulation functions.' The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) 'Nonfunctional descriptive material' includes but is not limited to music, literary works and a compilation or mere arrangement of data.

Both types of 'descriptive material' are nonstatutory when claimed as descriptive material *per se*. *Warmerdam*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized."

Each of the rejected claims defines subject matter that provides a useful, concrete and tangible result. For example, Claim 10 defines subject matter for a method of encoding data,

comprising the embedding of supplemental data by inserting the supplemental data into the data using at least one parameter which is altered during in order to embed of the supplemental data and deriving the supplemental data from other data. As stated from the above discussed portion of the MPEP, "when functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized." Claim 10 defines a signal comprising the encoded data from: embedding supplemental data by inserting the supplemental data into the data using at least one parameter which is altered in order to embed the supplemental data; and deriving the supplemental data from other data. There is clearly a data structure defined here that imparts functionality when employed as a computer component; wherein a data structure is a physical or logical relationship among data elements, designed to support specific data manipulation functions. Claim 10 clearly defines functional descriptive material. A signal is as capable of defining statutory subject matter as is any other computer-readable medium. Placing the data encoded by the method of Claim 1 on a signal causes that encoded data to become structurally and functionally interrelated with that medium. Claim 10 is, therefore, statutory.

In a similar manner Claim 12 defines subject matter for encoding input data, comprising the steps of partitioning the data into frames, determining a set of parameters for each frame, reducing the data rate of the input signal by applying an algorithm which is controlled by the parameter set whereby encoded data includes the set of parameters or at least data which can be used to derive the parameter set and the data rate-reduced signal and embedding supplemental data into encoded data, the parameter set is affected by the supplemental data.

The Applicants, respectfully, assert that Claims 10-13 define subject matter for an information carrier including a computer-readable medium having a program stored therein. These claims are directed to a computer-readable medium having a data structure that defines encoded data stored therein. The specifics of that data structure placed on a signal or within a data carrier results in statutory subject matter.

Alternatively, Claim 1 and 3 define statutory methods for encoding. The Applicants assert that defining a signal as the medium upon which to carry that data structure created by these encoding methods does not result in a non-statutory claim unless it can be substantiated that the methods for encoding are themselves non-statutory. Accordingly, the

Applicants, respectfully, assert that the rejection of Claims 10-13 under 35 U.S.C. §101 should be rescinded.

The Final Office Action rejected Claims 1, 3, 4,10-14, 16, 17, 19-21, 23 and 24 under the provisions of 35 U.S.C. §102(b) as being anticipated by PCT International Application Number PCT/IB96/00992 authored by Linnartz (hereinafter referred to as Linnartz).

Regarding Claim1, the final rejection states that Linnartz discloses embedding supplemental data into the encoded signal using at least one parameter that is altered in order to embed the supplemental data on page 1, line 22-page 2, line 23 and page 3, first and second paragraphs. The Applicants, respectfully, point out that Linnartz discloses that a watermarked video signal can be created by forcing the number of slices in the video signal to be integer multiples of 3 and 7 in alternate frames. As stated by Linnartz on page 2, lines 9-13, the coding parameter is the number of slices. Therefore, the parameter set (number of slices) as taught by Linnartz determines the supplemental data (the watermark created); which is not equivalent to the parameter set being affected by the supplemental data (the watermark). In fact, the methodology as taught by Linnartz would make it impossible for the number of slices to be affected by the after created watermark because the number of slices within Linnartz determines the watermark. The present invention, contrary to the teachings of Linnartz, teaches altering the parameters in response to the supplemental data that is being embedded (see Abstract). Therefore, this rejection is, respectfully, traversed.

Regarding Claim 3, the final rejection states that Linnartz discloses the subject matter defined by Claim 3 for a method of encoding input data including partitioning the data into frames and the determining of a set of parameters for each frame. Here the Examiner is apparently referring to the number of slices being the set of parameters for each frame. The Applicants would like to point out that each frame within Linnartz can only have a single number of slices. A single parameter (the number of slices) does not constitute a set of parameters.

The final rejection further states that Linnartz on page 1, lines 27-28 discloses reducing the data rate of the input signal by applying an algorithm which is controlled by the parameter set whereby the encoded data includes the set of parameters or at least data which can be used to derive the parameter set and the data-rate-reduced signal. The Applicants, respectfully, disagree. Lines 27-28 on page 1 of Linnartz make no mention of reducing the data

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rate of the input signal. There is no disclosure or suggestion within Linnartz for reducing the data rate. Moreover, there is no teaching or suggestion within Linnartz for using encoded data to derive the parameter set and the data-rate-reduced signal. Linnartz discloses assigning a predetermined value to a coding parameter that in turn requires a plurality of further parameters to be modified to correctly perform decoding; which is not equivalent to the subject matter of reducing the data rate or using encoded data to derive the parameter set and the data-rate-reduced signal as defined by rejected Claim 3.

The Examiner states that Linnartz discloses embedding supplemental data into the encoded signal, the parameter set is affected by the supplemental data on page 3, lines 11-20. The Applicant, respectfully, points out that page 3, lines 11-20 and Linnartz discloses that a watermarked video signal can be created by forcing the number of slices in the video signal to be integer multiples of 3 and 7 in alternate frames. As stated by Linnartz on page 2, lines 9-13, the coding parameter is the number of slices. Therefore, the parameter set (number of slices) as taught by Linnartz determines the supplemental data (the watermark created); which is not equivalent to the parameter set (the number of slices as taught by Linnartz) being affected by the supplemental data (the watermark). In fact, the methodology as taught by Linnartz would make it impossible for the number of slices to be affected by the after created watermark because the number of slices within Linnartz determines the watermark. The present invention, contrary to the teachings of Linnartz, teaches altering the parameters in response to the supplemental data that is being embedded (see Abstract). Therefore, the subject matter defined by rejected Claim 3 is in fact quite the opposite to the teachings of Linnartz.

Regarding Claim 4, the Examiner states that Linnartz discloses on page 3, a method of extracting data that has been encoded as recited by Claim 3. Initially, as previously discussed, Linnartz does not disclose or suggest the method of encoding as defined by Claim 3. Furthermore, rejected Claim 4 defines subject matter for extracting information embedded in the parameter set of an encoded signal. The Examiner cites page 3, line 21- page 4, line 2 of Linnartz; which discusses a decoder methodology wherein a counter is arranged to function as a mod counter to determine the number of slices in each frame in order to determine if a watermark is contained within the signal. Thus, Linnartz teaches the extraction of the parameter set from the encoded signal rather

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than extracting information from the parameter set as defined by rejected Claim 4. Accordingly, the rejection to Claim 4 is, respectfully, traversed.

The remaining claims depend from and further narrow and define Claim 1 and 3. Therefore, the remaining claims are also believed to be allowable.

Claim 25 defines subject matter for the lossless encoding of the supplemental data which is not disclosed or suggested by the cited reference Linnartz, therefore, Claim 25 is believed to be allowable.

Claim 26 defines subject matter for bit by bit encoding of the supplemental data which is not disclosed or suggested by the cited reference Linnartz, therefore, Claim 26 is believed to be allowable.

Claim 27 defines subject matter for before embedding supplemental data, partitioning of the data into frames and determining a set of parameters for each frame is performed, wherein the set of parameters can be altered to embed the supplemental data; which is not disclosed or suggested by the cited reference Linnartz, therefore, Claim 27 is believed to be allowable.

Claim 28 defines subject matter for the encoded data being used to derive the set of parameters; which is not disclosed or suggested by the cited reference Linnartz, therefore, Claim 28 is believed to be allowable.

Claim 29 defines subject matter for the parameters being altered to dedicated values in response to the supplemental data to be embedded; which is not disclosed or suggested by the cited reference Linnartz, therefore, Claim 29 is believed to be allowable.

The Final Office Action rejected Claims 1, 2, 15 and 25-29 under the provisions under the provisions of 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,037,984 issued in the name of Isnardi (hereinafter referred to as Isnardi).

Regarding Claim 1, the Examiner states that Isnardi col. 2, lines 15-31 and col. 3, line 45-col. 4, line 50 discloses the subject matter of Claim 1. The Examiner's position is that this portion of Isnardi discloses a method of encoding data, including embedding supplemental data by inserting the supplemental data into the data using at least one parameter which is altered in order to embed the supplemental data and deriving the supplemental data from other data. The Applicants respectfully, point out that the Examiner has not indicated which elements within Isnardi constitute the supplemental data and how embedding of the supplemental data takes place

by altering at least one parameter in order to embed the supplemental data is accomplished. The rejection does not indicate the element(s) that are being read as the parameter. The rejection further does not indicate how Isnardi derives the supplemental data from other data. It appears that the watermark within Isnardi is being read as the supplemental data. It further appears that the DCT coefficients are being read as the at least one parameter which is altered to embed the watermark. It is not at all apparent that the supplemental data (assumed to be the watermark) within Isnardi is derived from other data. The Applicants, respectfully, submit that there is no disclosure or suggestion for deriving the supplemental data from other data within Isnardi. However, in an effort to move this case towards allowance, Claim 1 has been amended to define subject matter for the supplemental data to be embedded within a lossless encoded signal. This subject matter is discussed on page 3, lines 16-17 of the specification to the present invention. The Applicants, respectfully, point out that Isnardi teaches embedding a watermark within an MPEG encoded signal and an MPEG encoding is not lossless. Therefore, the foregoing amendment to Claim 1 clearly distinguishes the subject matter defined therein from the teachings of Isnardi.

Claims 2 and 15 depend from Claim 1 and are believed to be allowable for that reason.

Regarding Claim 25, there is no disclosure or suggestion within Isnardi for lossless encoding. The Applicants, respectfully, point out that the teachings of Isnardi pertain to MPEG encoding which is not lossless. Therefore, this rejection is traversed.

Claim 26 depend from Claim 1 and are believed to be allowable for that reason.

Regarding Claim 27, there is no disclosure or suggestion for a method of encoding supplemental data of encoded data, wherein before the embedding, partitioning of the data into frames and determining a set of parameters for each frame within Isnardi. Therefore, this rejection is traversed.

Regarding Claim 28, there is no disclosure or suggestion for the encoded data being used to derive the set of parameters within Isnardi. Therefore, this rejection is traversed.

Regarding Claim 29, there is no disclosure or suggestion for the parameters to be altered to a dedicated value in response to the supplemental data to be embedded within Isnardi. Therefore, this rejection is traversed.
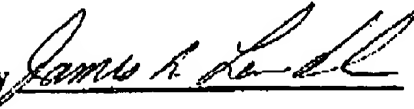
The Final Office Action rejected Claims 18 and 22 under the provisions under the

provisions of 35 U.S.C. §103(a) as being obvious over Isnardi in view of U.S. Patent No. 6,037,984 issued in the name of Isnardi (hereinafter referred to as Isnardi). These claims depend from claims that have been previously discussed as being allowable. Therefore, Claims 18 and 22 are also believed to be allowable.

Applicant is not aware of any additional patents, publications, or other information not previously submitted to the Patent and Trademark Office which would be required under 37 C.F.R. 1.99.

In view of the foregoing amendment and remarks, the Applicant believes that the present application is in condition for allowance, with such allowance being, respectfully, requested.

Respectfully submitted,

By _(signature)_

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